ASA/PIX 7.x والإصدارات الأحدث: إنشاء أنفاق LAN-to-LAN و EasyVPN IPsec على مثال تكوين الواجهة نفسه

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المقدمة

يزود هذا وثيقة عينة تشكيل ل كيف أن يمكن الصرة ASA أن يقبل الموقع إلى موقع نفق و easy VPN IPsec توصيل على ال نفسه قارن. يستخدم بروتوكول IPsec بين محول Cisco ASA 5520 وجهاز الأمان القابل للتكيف (ASA) 5505 شبكة VPN سهلة مع وضع امتداد الشبكة (NEM).

المتطلبات الأساسية

المتطلبات

لا توجد متطلبات خاصة لهذا المستند.

المكونات المستخدمة

تستند المعلومات الواردة في هذا المستند إلى إصدارات البرامج والمكونات المادية التالية:

- ASA 5500 sery أن يركض صيغة x.7 وفيما بعد (صرة)**ملاحظة:** يمكن أيضا إستخدام تكوين HUB ASA مع جهاز أمان PIX 515 و 515E و 525 و 535 التي تشغل الإصدار x.7 والإصدارات الأحدث
- Easy VPN ASA 5505 أن يركض صيغة x.7 وفيما بعد
- جهاز أمان PIX 515 و 515E و 525 و 535 التي تشغل الإصدار x.7 والإصدارات الأحدث

تم إنشاء المعلومات الواردة في هذا المستند من الأجهزة الموجودة في بيئة معملية خاصة. بدأت جميع الأجهزة المستخدمة في هذا المستند بتكوين ممسوح (افتراضي). إذا كانت شبكتك مباشرة، فتأكد من فهمك للتأثير المحتمل لأي

أمر.

الاصطلاحات

راجع اصطلاحات تلميحات Cisco التقنية للحصول على مزيد من المعلومات حول اصطلاحات المستندات.

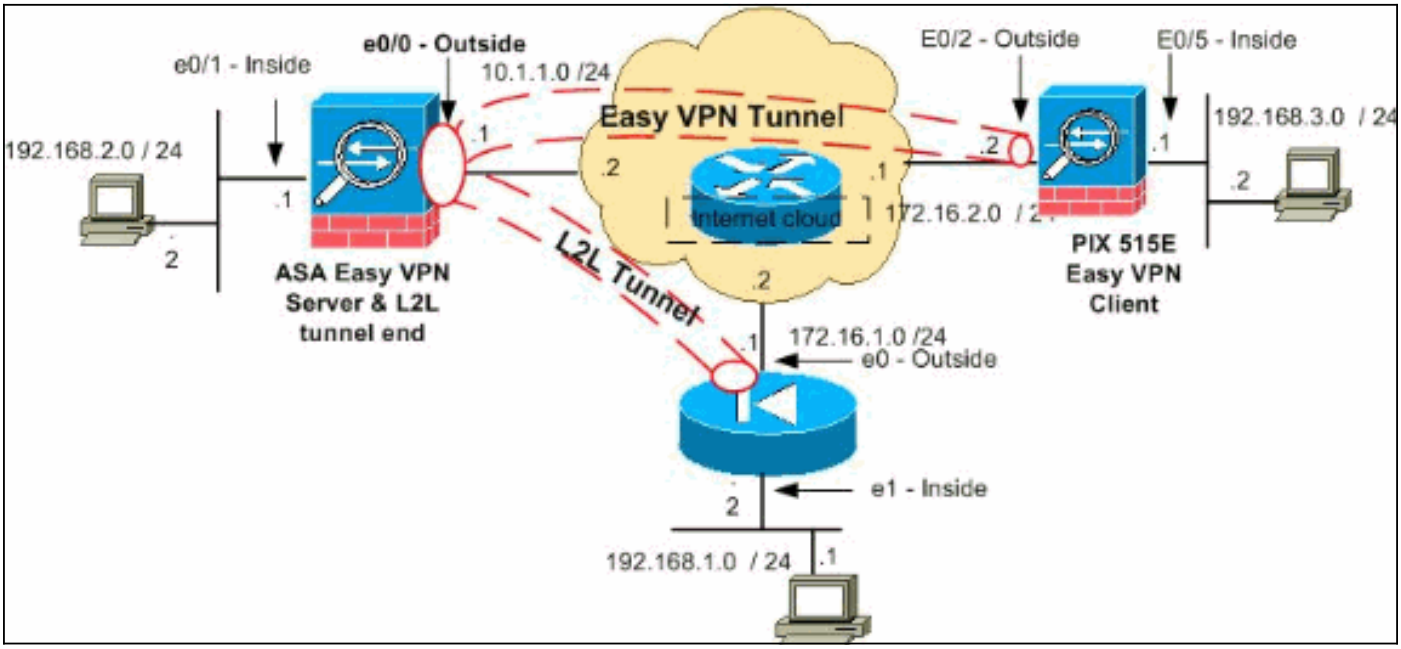
التكوين

يعرض هذا القسم المعلومات التي يمكنك إستخدامها لتكوين الميزات التي يصفها هذا المستند.

ملاحظة: أستخدم أداة بحث الأوامر (للعملاء المسجلين فقط) للحصول على مزيد من المعلومات حول الأوامر المستخدمة في هذا القسم.

الرسم التخطيطي للشبكة

يستخدم هذا المستند إعداد الشبكة التالي:



ملاحظة: ال ip ليس يخاطب خطة يستعمل في هذا تشكيل قانونيا routable على الإنترنت. هم rfc 1918 عنوان أي يكون استعملت في مختبر بيئة.

التكوينات

يستخدم هذا المستند التكوينات التالية:

- Hub ASA
- عميل ASA 5505 ل VPN سهل
- PIX

Hub ASA
(ASA Version 8.0(2 ! hostname ciscoasa

```
enable password 8Ry2YjIyt7RRXU24 encrypted
names
!
interface Ethernet0/0
nameif outside
security-level 0
ip address 10.1.1.1 255.255.255.0
!
interface Ethernet0/1
nameif inside
security-level 100
ip address 192.168.2.1 255.255.255.0
!
Output Suppressed. !--- Access-list for interesting ---!
traffic (Site to Site) to be !--- encrypted between hub
ASA and spoke (PIX) networks. access-list
outside_cryptomap_20 extended permit ip 192.168.2.0
255.255.255.0 192.168.1.0 255.255.255.0 !--- Access-list
for interesting traffic to be !--- encrypted between hub
ASA and spoke easy vpn client ASA networks. access-list
ezvpn1 extended permit ip 192.168.2.0 255.255.255.0
192.168.3.0 255.255.255.0 !--- Access-list for traffic
to bypass the network address !--- translation (NAT)
process. access-list nonat extended permit ip
192.168.2.0 255.255.255.0 192.168.1.0 255.255.255.0
access-list nonat extended permit ip 192.168.2.0
255.255.255.0 192.168.3.0 255.255.255.0 !--- Output
Suppressed. !--- Specify the NAT configuration. !--- NAT
0 prevents NAT for the ACL defined in this
configuration. !--- The nat 1 command specifies NAT for
all other traffic. nat-control global (outside) 1
interface nat (inside) 0 access-list nonat nat (inside)
1 0.0.0.0 0.0.0.0 route outside 0.0.0.0 0.0.0.0 10.1.1.2
1 !--- Output Suppressed. !--- Configuration of IPsec
Phase 2 crypto ipsec transform-set myset esp-3des esp-
sha-hmac !--- IPsec configuration for the dynamic LAN-
to-LAN tunnel crypto dynamic-map ezvpn 30 set transform-
set myset !--- IPsec configuration for the static LAN-
to-LAN tunnel crypto map outside_map 20 match address
outside_cryptomap_20 crypto map outside_map 20 set peer
172.16.1.1 crypto map outside_map 20 set transform-set
myset !--- IPsec configuration that binds dynamic map to
crypto map crypto map outside_map 65535 ipsec-isakmp
dynamic ezvpn !--- Crypto map applied to the outside
interface of the ASA crypto map outside_map interface
outside isakmp enable outside !--- PHASE 1 CONFIGURATION
---! !--- This configuration uses isakmp policy 1. !---
These configuration commands !--- define the Phase 1
policies that are used. crypto isakmp policy 10
authentication pre-share encryption 3des hash sha group
2 lifetime 86400 !--- Output Suppressed. !--- This
defines the group policy you use with Easy VPN. !---
Specify the networks that can pass through !--- the
tunnel and that you want to !--- use network extension
mode. group-policy tunnel internal group-policy tunnel
attributes nem enable !--- The username and password
associated with !--- this VPN connection are defined
here. You !--- can also use AAA for this function.
username cisco password ffIRPGpDSOJh9YLq encrypted
tunnel-group 172.16.1.1 type ipsec-l2l tunnel-group
172.16.1.1 ipsec-attributes pre-shared-key * !--- The
tunnel-group commands bind the configurations !---
defined in this configuration to the tunnel that is !---
used for Easy VPN. This tunnel name is the one !---
```

```
specified on the remote side. tunnel-group mytunnel type
  remote-access tunnel-group mytunnel general-attributes
 default-group-policy tunnel !--- Defines the pre-shared
    key used for !--- IKE authentication for the dynamic
     tunnel. tunnel-group mytunnel ipsec-attributes pre-
                        shared-key * prompt hostname context
   Cryptochecksum:e148bf43d04906f5db41fc6f90c52d34 : end
```

Easy VPN - ASA 5505 عميل

```
                                                (ASA Version 7.2(2
                                                             !
                                                  hostname ciscoasa
                                       domain-name default.domain.invalid
                                 enable password 8Ry2YjIyt7RRXU24 encrypted
                                                           names
                                                             !
                                                   interface Vlan1
                                                    nameif outside
                                                  security-level 0
                                        ip address 172.16.2.2 255.255.255.0
                                                             !
                                                   interface Vlan2
                                                     nameif inside
                                                 security-level 100
                                      ip address 192.168.3.1 255.255.255.0
                                                             !
                                                interface Ethernet0/0
                                                             !
                                                interface Ethernet0/1
                                                       shutdown
                                                             !
                                                interface Ethernet0/2
                                                             !
                                                interface Ethernet0/3
                                                             !
                                                interface Ethernet0/4
                                              switchport access vlan 2

 Output Suppressed. ! route outside 0.0.0.0 0.0.0.0 ---!
      172.16.2.1 1 !--- Output Suppressed. !--- Easy VPN
Client Configuration ---! !--- Specify the IP address of
     the VPN server. vpnclient server 10.1.1.1 !--- This
     example uses network extension mode. vpnclient mode
  network-extension-mode !--- Specify the group name and
the pre-shared key. vpnclient vpngroup mytunnel password
   ******** !--- Specify the authentication username and
password. vpnclient username cisco password ******** !--
   - In order to enable the device as hardware vpnclient,
        use this command. vpnclient enable ! !--- Output
                                                 Suppressed.
   Cryptochecksum:0458ce7a08e6b7f9417b17bc254eb4e2 : end
```

PIX

```
                                                (PIX Version 8.0(2
                                                             !
                                                  hostname pixfirewall
                                 enable password 8Ry2YjIyt7RRXU24 encrypted
                                                           names
                                                             !
                                                interface Ethernet0
                                                    nameif outside
```

```
                                        security-level 0
                                ip address 172.16.1.1 255.255.255.0
                                                                !
                                                interface Ethernet1
                                                     nameif inside
                                                security-level 100
                                ip address 192.168.1.2 255.255.255.0
                                                                !
                                             passwd 2KFQnbNIdI.2KYOU encrypted
                                                        ftp mode passive
    This access list (inside_nat0_outbound) is used ---!
  with the nat zero command. !--- This prevents traffic
     which matches the access list from undergoing !---
         network address translation (NAT). access-list
      inside_nat0_outbound extended permit ip 192.168.1.0
255.255.255.0 192.168.2.0 255.255.255.0 !--- The traffic
      specified by this ACL is !--- traffic that is to be
  encrypted and !--- sent across the VPN tunnel. This ACL
                          is intentionally !--- the same as
  (inside_nat0_outbound). !--- Two separate access lists
  must always be used in this configuration. access-list
     outside_cryptomap_20 extended permit ip 192.168.1.0
      255.255.255.0 192.168.2.0 255.255.255.0 !--- NAT 0
         prevents NAT for networks specified in the ACL
    inside_nat0_outbound. nat (inside) 0 access-list
      inside_nat0_outbound !--- Output Suppressed. route
        outside 0.0.0.0 0.0.0.0 172.16.1.2 1 !--- Output
    Suppressed. !--- PHASE 2 CONFIGURATION ---! !--- The
     encryption types for Phase 2 are defined here. !---
      Define the transform set for Phase 2. crypto ipsec
   transform-set myset esp-3des esp-sha-hmac !--- Define
  which traffic can be sent to the IPsec peer. crypto map
   outside_map 20 match address outside_cryptomap_20 !---
  Sets the IPsec peer. crypto map outside_map 20 set peer
  10.1.1.1 !--- Sets the IPsec transform set "myset" !---
      to be used with the crypto map entry "outside_map".
   crypto map outside_map 20 set transform-set myset !---
        Specifies the interface to be used with !--- the
      settings defined in this configuration. crypto map
outside_map interface outside !--- PHASE 1 CONFIGURATION
---! !--- This configuration uses isakmp policy 10. !---
  Policy 65535 is included in the config by default. !---
  The configuration commands here define the Phase !--- 1
    policy parameters that are used. crypto isakmp enable
outside crypto isakmp policy 10 authentication pre-share
    encryption 3des hash sha group 2 lifetime 86400 crypto
   isakmp policy 65535 authentication pre-share encryption
         3des hash sha group 2 lifetime 86400 !--- Output
      Suppressed. !--- In order to create and manage the
  database of connection-specific records !--- for ipsec-
  l2l—IPsec (LAN-to-LAN) tunnels, use the tunnel-group !--
     - command in global configuration mode. !--- For L2L
  connections the name of the tunnel group MUST be the IP
     !--- address of the IPsec peer. tunnel-group 10.1.1.1
type ipsec-l2l !--- Enter the pre-shared-key in order to
        configure the authentication method. tunnel-group
        10.1.1.1 ipsec-attributes pre-shared-key * prompt
                                                hostname context
    Cryptochecksum:4a2c70f2102113315de795f13f25c2aa : end
```

التحقق من الصحة

يوفر هذا القسم معلومات يمكنك إستخدامها للتأكد من أن التكوين يعمل بشكل صحيح.

تدعم أداة مترجم الإخراج (للعملاءالمسجلين فقط) بعض أوامر **show**. استخدم أداة مترجم الإخراج (OIT) لعرض تحليل مُخرَج الأمر **show** .

- **show crypto isakmp sa**— يعرض جميع اقترانات أمان IKE (SAs) الحالية في نظير.
- **show crypto ipSec**—يعرض جميع معرفات الخدمة الحالية.

يوضح هذا القسم مثال تكوينات التحقق ل:

- Hub ASA
- عميل VPN ل ASA 5505 سهل
- PIX

Hub ASA

```
ciscoasa #show crypto isakmp sa

Active SA: 2
    Rekey SA: 0 (A tunnel will report 1 Active and 1
(Rekey SA during rekey
Total IKE SA: 2
Dynamic LAN-to-LAN tunnel establishment 1 IKE Peer: ---!
172.16.2.2 Type : user Role : responder Rekey : no State
 : AM_ACTIVE !--- Static LAN-to-LAN tunnel establishment
2 IKE Peer: 172.16.1.1 Type : L2L Role : initiator Rekey
   : no State : MM_ACTIVE ciscoasa #show crypto ipsec sa
ciscoasa(config)#sh crypto ipsec sa
interface: outside
     Crypto map tag: outside_map, seq num: 20, local
addr: 10.1.1.1


        access-list outside_cryptomap_20 permit ip
192.168.2.0 255.255.255.0
255.255.255.0 192.168.1.0
              local ident (addr/mask/prot/port):
((192.168.2.0/255.255.255.0/0/0
             remote ident (addr/mask/prot/port):
((192.168.1.0/255.255.255.0/0/0
current_peer: 172.16.1.1

pkts encaps: 4, #pkts encrypt: 4, #pkts digest: 4#
pkts decaps: 4, #pkts decrypt: 4, #pkts verify: 4#
        pkts compressed: 0, #pkts decompressed: 0#
    pkts not compressed: 4, #pkts comp failed: 0,#
#pkts decomp failed: 0
    pre-frag successes: 0, #pre-frag failures: 0,#
#fragments created: 0
PMTUs sent: 0, #PMTUs rcvd: 0, #decapsulated frgs#
needing reassembly: 0
send errors: 0, #recv errors: 0#

      local crypto endpt.: 10.1.1.1, remote crypto
endpt.: 172.16.1.1

  path mtu 1500, ipsec overhead 58, media mtu 1500
current outbound spi: E4312E13

:inbound esp sas
```

```
                    (spi: 0x9ABAC3DD (2595931101
          transform: esp-3des esp-sha-hmac none
               { ,in use settings ={L2L, Tunnel
          slot: 0, conn_id: 741376, crypto-map:
                                                outside_map
    sa timing: remaining key lifetime (kB/sec):
                                             ((4274999/28783
                                  IV size: 8 bytes
                     replay detection support: Y
                                          :outbound esp sas
                     (spi: 0xE4312E13 (3828428307
          transform: esp-3des esp-sha-hmac none
               { ,in use settings ={L2L, Tunnel
          slot: 0, conn_id: 741376, crypto-map:
                                                outside_map
    sa timing: remaining key lifetime (kB/sec):
                                             ((4274999/28783
                                  IV size: 8 bytes
                     replay detection support: Y

      Crypto map tag: ezvpn, seq num: 30, local addr:
                                                  10.1.1.1

                local ident (addr/mask/prot/port):
                           ((10.1.1.1/255.255.255.255/0/0
              remote ident (addr/mask/prot/port):
                          ((172.16.2.2/255.255.255.255/0/0
         current_peer: 172.16.2.2, username: cisco
                dynamic allocated peer ip: 0.0.0.0

pkts encaps: 0, #pkts encrypt: 0, #pkts digest: 0#
pkts decaps: 0, #pkts decrypt: 0, #pkts verify: 0#
        pkts compressed: 0, #pkts decompressed: 0#
    pkts not compressed: 0, #pkts comp failed: 0,#
                                      #pkts decomp failed: 0
    pre-frag successes: 0, #pre-frag failures: 0,#
                                       #fragments created: 0
PMTUs sent: 0, #PMTUs rcvd: 0, #decapsulated frgs#
                                       needing reassembly: 0
                  send errors: 0, #recv errors: 0#

      local crypto endpt.: 10.1.1.1, remote crypto
                                         endpt.: 172.16.2.2

  path mtu 1500, ipsec overhead 58, media mtu 1500
                     current outbound spi: 2647B59C

                                        :inbound esp sas
                       (spi: 0x21685AF8 (560487160
          transform: esp-3des esp-sha-hmac none
                { ,in use settings ={RA, Tunnel
    slot: 0, conn_id: 737280, crypto-map: ezvpn
 sa timing: remaining key lifetime (sec): 28146
                                  IV size: 8 bytes
                     replay detection support: Y
                                          :outbound esp sas
                       (spi: 0x2647B59C (642233756
          transform: esp-3des esp-sha-hmac none
                { ,in use settings ={RA, Tunnel
    slot: 0, conn_id: 737280, crypto-map: ezvpn
 sa timing: remaining key lifetime (sec): 28146
                                  IV size: 8 bytes
                     replay detection support: Y
```

```
     Crypto map tag: ezvpn, seq num: 30, local addr:
                                                10.1.1.1

               local ident (addr/mask/prot/port):
                                     ((0.0.0.0/0.0.0.0/0/0
             remote ident (addr/mask/prot/port):
                          ((192.168.3.0/255.255.255.0/0/0
        current_peer: 172.16.2.2, username: cisco
               dynamic allocated peer ip: 0.0.0.0

pkts encaps: 5, #pkts encrypt: 5, #pkts digest: 5#
pkts decaps: 5, #pkts decrypt: 5, #pkts verify: 5#
        pkts compressed: 0, #pkts decompressed: 0#
    pkts not compressed: 5, #pkts comp failed: 0,#
                                    #pkts decomp failed: 0
    pre-frag successes: 0, #pre-frag failures: 0,#
                                     #fragments created: 0
PMTUs sent: 0, #PMTUs rcvd: 0, #decapsulated frgs#
                                     needing reassembly: 0
                  send errors: 0, #recv errors: 0#

      local crypto endpt.: 10.1.1.1, remote crypto
                                       endpt.: 172.16.2.2

  path mtu 1500, ipsec overhead 58, media mtu 1500
                    current outbound spi: 07997B21

                                      :inbound esp sas
                      (spi: 0xB5B6013D (3048603965
          transform: esp-3des esp-sha-hmac none
                { ,in use settings ={RA, Tunnel
    slot: 0, conn_id: 737280, crypto-map: ezvpn
 sa timing: remaining key lifetime (sec): 28145
                                IV size: 8 bytes
                    replay detection support: Y
                                      :outbound esp sas
                       (spi: 0x07997B21 (127499041
          transform: esp-3des esp-sha-hmac none
                { ,in use settings ={RA, Tunnel
    slot: 0, conn_id: 737280, crypto-map: ezvpn
 sa timing: remaining key lifetime (sec): 28145
                                IV size: 8 bytes
                    replay detection support: Y

     Crypto map tag: ezvpn, seq num: 30, local addr:
                                               10.1.1.1

               local ident (addr/mask/prot/port):
                                     ((0.0.0.0/0.0.0.0/0/0
             remote ident (addr/mask/prot/port):
                        ((172.16.2.2/255.255.255.255/0/0
        current_peer: 172.16.2.2, username: cisco
               dynamic allocated peer ip: 0.0.0.0

pkts encaps: 0, #pkts encrypt: 0, #pkts digest: 0#
pkts decaps: 0, #pkts decrypt: 0, #pkts verify: 0#
        pkts compressed: 0, #pkts decompressed: 0#
    pkts not compressed: 0, #pkts comp failed: 0,#
                                    #pkts decomp failed: 0
    pre-frag successes: 0, #pre-frag failures: 0,#
                                     #fragments created: 0
PMTUs sent: 0, #PMTUs rcvd: 0, #decapsulated frgs#
                                     needing reassembly: 0
                  send errors: 0, #recv errors: 0#
```

```
     local crypto endpt.: 10.1.1.1, remote crypto
                                       endpt.: 172.16.2.2

  path mtu 1500, ipsec overhead 58, media mtu 1500
                    current outbound spi: 0F0B1A75

                                      :inbound esp sas
                      (spi: 0x68B0EA75 (1756424821
         transform: esp-3des esp-sha-hmac none
               { ,in use settings ={RA, Tunnel
   slot: 0, conn_id: 737280, crypto-map: ezvpn
 sa timing: remaining key lifetime (sec): 28143
                                IV size: 8 bytes
                   replay detection support: Y
                                      :outbound esp sas
                      (spi: 0x0F0B1A75 (252385909
         transform: esp-3des esp-sha-hmac none
               { ,in use settings ={RA, Tunnel
   slot: 0, conn_id: 737280, crypto-map: ezvpn
 sa timing: remaining key lifetime (sec): 28143
                                IV size: 8 bytes
                   replay detection support: Y
```

عميل ASA 5505 ل VPN سهل

```
                  ciscoasa(config)# sh crypto isakmp sa

                                       Active SA: 1
   Rekey SA: 0 (A tunnel will report 1 Active and 1
                                (Rekey SA during rekey
                                       Total IKE SA: 1

                                    IKE Peer: 10.1.1.1   1
      Type    : user            Role    : initiator
      Rekey   : no              State   : AM_ACTIVE



                  ciscoasa(config)# sh crypto ipsec sa
                                    interface: outside
  Crypto map tag: _vpnc_cm, seq num: 10, local addr:
                                                172.16.2.2

   access-list _vpnc_acl permit ip host 172.16.2.2
                                             host 10.1.1.1
               local ident (addr/mask/prot/port):
                       ((172.16.2.2/255.255.255.255/0/0
              remote ident (addr/mask/prot/port):
                          ((10.1.1.1/255.255.255.255/0/0
        current_peer: 10.1.1.1, username: 10.1.1.1
                dynamic allocated peer ip: 0.0.0.0

pkts encaps: 0, #pkts encrypt: 0, #pkts digest: 0#
pkts decaps: 0, #pkts decrypt: 0, #pkts verify: 0#
        pkts compressed: 0, #pkts decompressed: 0#
    pkts not compressed: 0, #pkts comp failed: 0,#
                                    #pkts decomp failed: 0
    pre-frag successes: 0, #pre-frag failures: 0,#
                                     #fragments created: 0
PMTUs sent: 0, #PMTUs rcvd: 0, #decapsulated frgs#
```

```
                                        needing reassembly: 0
                send errors: 0, #recv errors: 0#

   local crypto endpt.: 172.16.2.2, remote crypto
                                          endpt.: 10.1.1.1

  path mtu 1500, ipsec overhead 58, media mtu 1500
                  current outbound spi: 21685AF8

                                         :inbound esp sas
                     (spi: 0x2647B59C (642233756
        transform: esp-3des esp-sha-hmac none
              { ,in use settings ={RA, Tunnel
   slot: 0, conn_id: 178, crypto-map: _vpnc_cm
 sa timing: remaining key lifetime (sec): 28298
                                IV size: 8 bytes
                  replay detection support: Y
                                         :outbound esp sas
                     (spi: 0x21685AF8 (560487160
        transform: esp-3des esp-sha-hmac none
              { ,in use settings ={RA, Tunnel
   slot: 0, conn_id: 178, crypto-map: _vpnc_cm
 sa timing: remaining key lifetime (sec): 28298
                                IV size: 8 bytes
                  replay detection support: Y

  Crypto map tag: _vpnc_cm, seq num: 10, local addr:
                                                172.16.2.2

   access-list _vpnc_acl permit ip host 172.16.2.2
                                                       any
               local ident (addr/mask/prot/port):
                       ((172.16.2.2/255.255.255.255/0/0
             remote ident (addr/mask/prot/port):
                                       ((0.0.0.0/0.0.0.0/0/0
       current_peer: 10.1.1.1, username: 10.1.1.1
               dynamic allocated peer ip: 0.0.0.0

pkts encaps: 0, #pkts encrypt: 0, #pkts digest: 0#
pkts decaps: 0, #pkts decrypt: 0, #pkts verify: 0#
        pkts compressed: 0, #pkts decompressed: 0#
    pkts not compressed: 0, #pkts comp failed: 0,#
                                    #pkts decomp failed: 0
    pre-frag successes: 0, #pre-frag failures: 0,#
                                     #fragments created: 0
PMTUs sent: 0, #PMTUs rcvd: 0, #decapsulated frgs#
                                     needing reassembly: 0
                send errors: 0, #recv errors: 0#

   local crypto endpt.: 172.16.2.2, remote crypto
                                          endpt.: 10.1.1.1

  path mtu 1500, ipsec overhead 58, media mtu 1500
                  current outbound spi: 68B0EA75

                                         :inbound esp sas
                     (spi: 0x0F0B1A75 (252385909
        transform: esp-3des esp-sha-hmac none
              { ,in use settings ={RA, Tunnel
   slot: 0, conn_id: 178, crypto-map: _vpnc_cm
 sa timing: remaining key lifetime (sec): 28298
                                IV size: 8 bytes
                  replay detection support: Y
                                         :outbound esp sas
```

```
                     (spi: 0x68B0EA75 (1756424821
          transform: esp-3des esp-sha-hmac none
                { ,in use settings ={RA, Tunnel
    slot: 0, conn_id: 178, crypto-map: _vpnc_cm
 sa timing: remaining key lifetime (sec): 28298
                               IV size: 8 bytes
                    replay detection support: Y

  Crypto map tag: _vpnc_cm, seq num: 10, local addr:
                                          172.16.2.2

      access-list _vpnc_acl permit ip 192.168.3.0
                                    255.255.255.0 any
               local ident (addr/mask/prot/port):
                         ((192.168.3.0/255.255.255.0/0/0
              remote ident (addr/mask/prot/port):
                                  ((0.0.0.0/0.0.0.0/0/0
        current_peer: 10.1.1.1, username: 10.1.1.1
               dynamic allocated peer ip: 0.0.0.0

pkts encaps: 5, #pkts encrypt: 5, #pkts digest: 5#
pkts decaps: 5, #pkts decrypt: 5, #pkts verify: 5#
        pkts compressed: 0, #pkts decompressed: 0#
    pkts not compressed: 0, #pkts comp failed: 0,#
                                #pkts decomp failed: 0
    pre-frag successes: 0, #pre-frag failures: 0,#
                                 #fragments created: 0
PMTUs sent: 0, #PMTUs rcvd: 0, #decapsulated frgs#
                                 needing reassembly: 0
                  send errors: 0, #recv errors: 0#

    local crypto endpt.: 172.16.2.2, remote crypto
                                      endpt.: 10.1.1.1

  path mtu 1500, ipsec overhead 58, media mtu 1500
                    current outbound spi: B5B6013D

                                   :inbound esp sas
                      (spi: 0x07997B21 (127499041
          transform: esp-3des esp-sha-hmac none
                { ,in use settings ={RA, Tunnel
    slot: 0, conn_id: 178, crypto-map: _vpnc_cm
 sa timing: remaining key lifetime (sec): 28294
                               IV size: 8 bytes
                    replay detection support: Y
                                   :outbound esp sas
                      (spi: 0xB5B6013D (3048603965
          transform: esp-3des esp-sha-hmac none
                { ,in use settings ={RA, Tunnel
    slot: 0, conn_id: 178, crypto-map: _vpnc_cm
 sa timing: remaining key lifetime (sec): 28294
                               IV size: 8 bytes
                    replay detection support: Y
```

PIX

```
              pixfirewall(config)# sh crypto isakmp sa

                                    Active SA: 1
   Rekey SA: 0 (A tunnel will report 1 Active and 1
                                (Rekey SA during rekey
                                    Total IKE SA: 1
```

```
                                    IKE Peer: 10.1.1.1   1
      Type    : L2L                Role    : responder
      Rekey   : no                 State   : MM_ACTIVE



               pixfirewall(config)# sh crypto ipsec sa
                                        interface: outside
    Crypto map tag: outside_map, seq num: 20, local
                                          addr: 172.16.1.1

        access-list outside_cryptomap_20 permit ip
                                192.168.1.0 255.255.255.0
                            255.255.255.0 192.168.2.0
              local ident (addr/mask/prot/port):
                           ((192.168.1.0/255.255.255.0/0/0
             remote ident (addr/mask/prot/port):
                           ((192.168.2.0/255.255.255.0/0/0
                              current_peer: 10.1.1.1

pkts encaps: 4, #pkts encrypt: 4, #pkts digest: 4#
pkts decaps: 4, #pkts decrypt: 4, #pkts verify: 4#
        pkts compressed: 0, #pkts decompressed: 0#
    pkts not compressed: 0, #pkts comp failed: 0,#
                                    #pkts decomp failed: 0
    pre-frag successes: 0, #pre-frag failures: 0,#
                                     #fragments created: 0
PMTUs sent: 0, #PMTUs rcvd: 0, #decapsulated frgs#
                                     needing reassembly: 0
                  send errors: 0, #recv errors: 0#

    local crypto endpt.: 172.16.1.1, remote crypto
                                          endpt.: 10.1.1.1

  path mtu 1500, ipsec overhead 58, media mtu 1500
                    current outbound spi: 9ABAC3DD

                                      :inbound esp sas
                     (spi: 0xE4312E13 (3828428307
          transform: esp-3des esp-sha-hmac none
               { ,in use settings ={L2L, Tunnel
           slot: 0, conn_id: 12288, crypto-map:
                                                outside_map
    sa timing: remaining key lifetime (kB/sec):
                                            ((3824999/28628
                                 IV size: 8 bytes
                    replay detection support: Y
                                     :outbound esp sas
                     (spi: 0x9ABAC3DD (2595931101
          transform: esp-3des esp-sha-hmac none
               { ,in use settings ={L2L, Tunnel
           slot: 0, conn_id: 12288, crypto-map:
                                                outside_map
    sa timing: remaining key lifetime (kB/sec):
                                            ((3824999/28628
                                 IV size: 8 bytes
                    replay detection support: Y
```

استكشاف الأخطاء وإصلاحها

يوفر هذا القسم معلومات يمكنك إستخدامها لاستكشاف أخطاء التكوين وإصلاحها.

أوامر استكشاف الأخطاء وإصلاحها

يتم دعم بعض أوامر **العرض بواسطة** أداة مترجم الإخراج (العملاء المسجلون فقط)، والتي تتيح لك عرض تحليل إخراج أمر **العرض**.

ملاحظة: ارجع إلى معلومات مهمة حول أوامر التصحيح قبل إصدار أوامر **debug**.

أصدرت PIX أمر في تشكيل أسلوب:

- **مسح التشفير sa** isakmp—يمحو المرحلة 1 من SAs
- **مسح التشفير عبر بروتوكول IPsec** —يعمل على مسح إعلانات المرحلة 2

أوامر **تصحيح الأخطاء** لأنفاق VPN:

- **debug crypto isakmp sa**—debugs ISAKMP SA تفاوض
- **debug crypto ipSec**—debugs IPSec SA تفاوض

معلومات ذات صلة

- أجهزة الأمان Cisco PIX 500 Series Security Appliances - تقديم
- حلول أستكشاف أخطاء الشبكة الخاصة الظاهرية (VPN) عبر بروتوكول IPSec للوصول عن بعد و L2L الأكثر شيوعا
- أجهزة الأمان المعدلة Cisco ASA 5500 Series Adaptive Security Appliances - دعم المنتج
- مفاوضة IPSec/بروتوكولات IKE
- الدعم التقني والمستندات - Cisco Systems

حول هذه الترجمة
ترجمت Cisco هذا المستند باستخدام مجموعة من التقنيات الآلية والبشرية لتقديم محتوى دعم للمستخدمين في جميع أنحاء العالم بلغتهم الخاصة. يُرجى ملاحظة أن أفضل ترجمة آلية لن تكون دقيقة كما هو الحال مع الترجمة الاحترافية التي يقدمها مترجم محترف. تخلي Cisco Systems مسئوليتها عن دقة هذه الترجمات وتُوصي بالرجوع دائمًا إلى المستند الإنجليزي الأصلي (الرابط متوفر).